

55-1500-220-PMD

***TM 55-1500-220-PMD**

HEADQUARTERS
DEPARTMENT OF THE ARMY
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AH-1G/S AND TH-1G HELICOPTER PREVENTIVE MAINTENANCE DAILY

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GENERAL INFORMATION AND SCOPE

WARNING: CERTAIN INSPECTIONS ARE MANDATORY SAFETY-OF-FLIGHT REQUIREMENTS, AND THE INSPECTION INTERVALS CANNOT BE EXCEEDED. IN THE EVENT THESE INSPECTIONS CANNOT BE ACCOMPLISHED AT SPECIFIED INTERVAL, THE AIRCRAFT CONDITION STATUS SYMBOL WILL BE IMMEDIATELY CHANGED TO A RED "X". THESE TYPE INSPECTION ITEMS ARE PRECEDED BY "MANDATORY SAFETY-OF-FLIGHT INSPECTION ITEM".

NOTE: INSPECTION ITEMS CONTAINED IN THIS MANUAL ARE CONSIDERED THE MINIMUM REQUIREMENTS FOR PERFORMING A DAILY INSPECTION AND MUST BE PERFORMED. THE CUMULATIVE EFFECTS OF INSPECTION DEFERRALS ARE UNKNOWN AND COULD RESULT IN CATASTROPHIC FAILURE OR INCREASED MAINTENANCE AT A LATER DATE. THEREFORE, THE USE OF SPECIAL LETTERING TO EMPHASIZE MANDATORY SAFETY-OF-FLIGHT INSPECTION ITEMS IS NOT TO BE CONSTRUED AS AUTHORITY FOR DEFERRAL OF OTHER INSPECTIONS.

This copy is a reprint which includes current
pages from Changes 1 through 8

***This manual supersedes TM 55-1500-220-PMD, 22 June 1979.**

D101.11:

1. Inspection Requirements. This manual contains complete requirements for daily inspection for AH-1 and TH-1G helicopters. It does not contain instructions for repair, adjustment, or other means of rectifying conditions, nor does it contain instructions for troubleshooting to find causes for malfunctioning. Specific tolerances, limits, etc. can be found in the applicable maintenance manuals. Use of the alphabetical index or table of contents in the applicable manuals will facilitate locating the required information.

2. Maintenance Activities. The inspections prescribed by this manual will be performed at specific periods by Aviation Unit Maintenance (AVUM) activities with assistance of Aviation Intermediate Maintenance (AVIM) and Depot Maintenance activities when required.

3. General Information.

a. The inspection requirements contained herein are stated in such a manner as to establish when certain equipment is to be inspected and what conditions are desired/undesired. Compliance with the provisions outlined herein is required in order to assure that proper servicing has been accomplished and latent defects are discovered and corrected before malfunctioning or serious trouble results. Inspection requirements are arranged, as nearly as possible, according to the manner in which they will be performed. The requirements are divided into groups listed under area headings.

b. The inspection intervals designated herein will not be exceeded except in actual operational emergencies as explained herein. It is the commander's responsibility to determine (on an individual aircraft basis) when inspection intervals may be exceeded. For this purpose, operational emergencies are conditions

of combat or conditions of disaster which necessitate flight to evacuate aircraft or personnel. When aircraft are operated beyond the normal inspection due-time because of such emergency situations, a circled red X status symbol and an appropriate statement (to include authority) must be entered in blocks 16 and 17 of DA Form 2408-13 (Aircraft Inspection and Maintenance Record) until such time as the inspection is complete. Since safety may be jeopardized when inspections are delayed to meet emergency requirements, commanders will ensure that the aircraft status symbol reverts to a red "X" and that delayed inspections are accomplished immediately upon termination of the actual emergency. When unusual local conditions of environment, utilization, mission, experience of flight crew and maintenance personnel, periods of inactivity, etc., are encountered, the Maintenance Officer will, at his discretion, increase the scope and/or frequency of maintenance or inspections as necessary to insure safe flight.

c. This manual may contain inspection requirements applicable to specific equipment not installed on helicopter. Those requirements that are not applicable should be disregarded.

d. DA Form 2408-13 shall be used to record all deficiencies or shortcomings discovered during the inspection to insure the current status of the aircraft is recorded.

e. A one and one-half inch space between each area of inspection is being provided to allow insertion of additional inspection items as required by local command inspection procedures.

4. Special Instructions.

a. A Preventive Maintenance Daily inspection is accomplished after the last flight of the day, or prior to the first flight on the next day on which the aircraft is flown. The inspection consists of

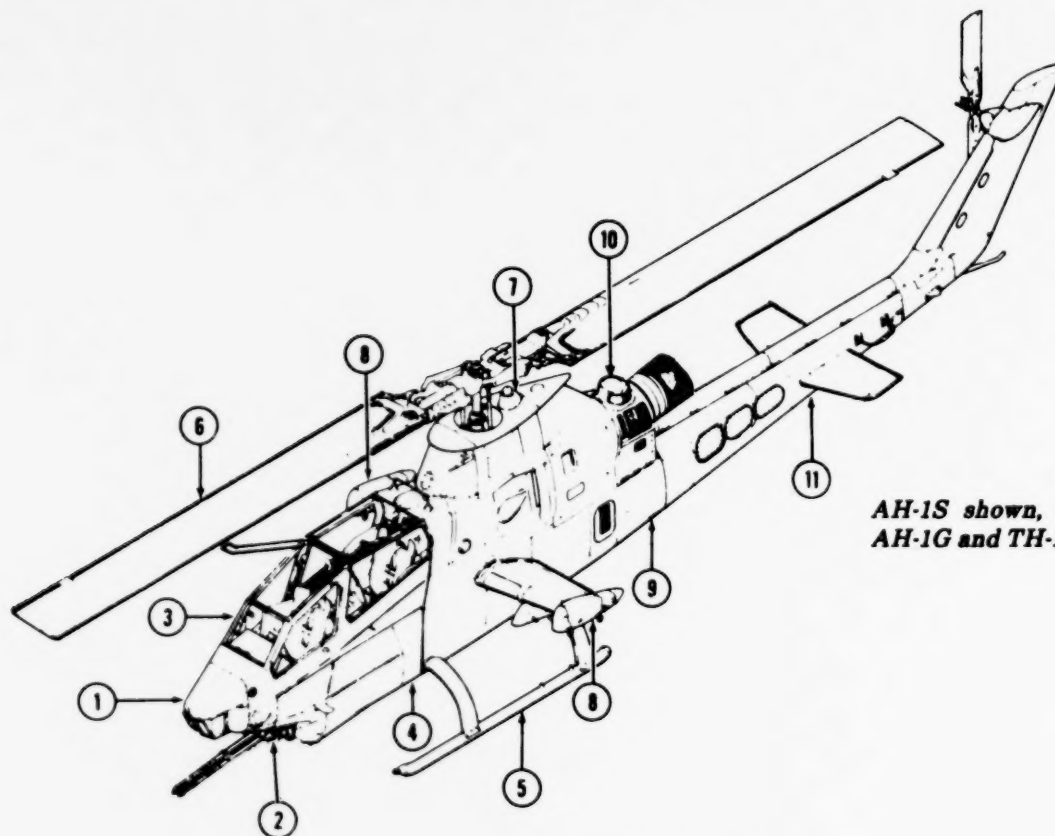
visual examination and operational checks to determine that the aircraft can safely and efficiently perform the assigned mission.

b. Requirements to accomplish each inspection are stated at top of the checklist.

5. Reporting of Errors and Recommending Improvements. You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail

your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of the applicable aircraft maintenance manual (when using the 2028-2 from the maintenance manual, insure that the publication number and title refer to this PMD) directly to Commander, US Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MTT, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished to you.

6. Inspection Areas. Inspection areas are shown in figure 1.



NOTE

*AH-1S shown, typical areas apply to
AH-1G and TH-1G.*

Figure 1. Area Diagram

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Area No. 1	Nose Area	All surfaces, components and equipment in nose compartment and on exterior ahead of forward edge of gunner door.
Area No. 2	Turret Area	All surfaces, components and equipment inside and outside of armament turret and ammunition compartment.
Area No. 3	Gunner and Pilot Area	All surfaces, components and equipment inside and outside the gunner-pilot compartment. Includes items stowed in cabin aft of pilot seat.
Area No. 4	Lower Forward Fuselage Area	All surfaces, components and equipment contained in, and on exterior of, lower forward portion of fuselage between ammunition compartment and aft cabin bulkhead (Sta 186.25) except forward fuel cell.
Area No. 5	Landing Gear Area	All surfaces, components and equipment which constitute the landing gear and attachments.
Area No. 6	Main Rotor Area	All components of the main rotor hub and blade. Does not include the mast.
Area No. 7	Pylon Area	All surfaces, components and equipment contained in, and on the exterior of, the hydraulic and transmission compartments to the bottom of the transmission. Includes transmission cowling, mast, mounts, rotating and fixed controls, and main (input) driveshaft.
Area No. 8	Wing Area	All surfaces, components and equipment contained in and on the wings. Includes all external fittings and attachments.
Area No. 9	Center Fuselage Area	All surfaces, components and equipment in and on the fuselage below the engine deck (WL 65.00) and between the cabin area (Sta 186.25) and tailboom attachment bulkhead (Sta 299.57). Includes forward and aft fuel cells, compartment below transmission, oil cooler and compartments accessible through side doors and panels on fuselage.

Area No. 10 Engine Area

All surfaces, components and equipment associated with engine installation located above engine work deck (WL 65.00) and within engine cowling, tailpipe fairing, countermeasure set cover and aft fairing.

Area No. 11 Tailboom Area

All surfaces, components and equipment located in and on the tailboom and vertical fin. Includes tail rotor, synchronized elevator, control linkages, and drive train of shafts and gearboxes mounted on the tailboom.

DAILY INSPECTION CHECKLIST TM 55-1500-220-PMD

The preventive maintenance daily will be accomplished following the last flight of the day or prior to the first flight on the next day on which the aircraft is flown. The inspection consists of visual examination and operational checks to determine that the aircraft can safely and efficiently perform its assigned mission.

DAILY INSPECTION TOTAL WORK TIME:

AH-1S

2 Hours

AH-1G/TH-1G

1.5 Hours

Seq. No.	Item and Procedure
	Nose Area
1.1	Inspect helicopter forms and records for recorded discrepancies (TM 38-750).
1.2	Nose section exterior for visible damage.
1.3	Telescopic sight unit (TSU). Refer to TM 9-1425-473-20 for TSU inspection.
1.4	Pitot tube and lines for damage, security, cleanliness, obstructions, foreign material and moisture.

Seq. No.	Item and Procedure
1.5	Nose compartment interior for cleanliness and corrosion. Battery and connections for security, presence of safety wire, cleanliness and corrosion. Battery vent for obstructions.
1.6	Nose compartment door for secure latching.
1.7	Clean glass window in gunsight turret.
1.8	Windshield and rain removal nozzles for damage, security and obstruction.

"FOD REMINDER"

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Check work area for tools and parts after completion of maintenance and inspection.

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C3

Seq. No.	Item and Procedure
	Turret Area
2.1	External surfaces of turret and fairing for visible damage.
2.2	Ammunition compartment doors for damage, interior for cleanliness and condition. Electrical receptacles for damage and corrosion.
2.3	Ammo chute and turret drive cable for condition. Refer to TM 9-1090-203-34.

Seq. No.	Item and Procedure
2.4	All hydraulic lines, hoses, and hydraulic components in the turret for evidence of damage, and chafing.
2.5	All electrical lines and components in the turret for evidence of damage and security.
2.6	Searchlight for visible damage.
2.7	All turret mounting hardware for corrosion and security.

"FOD REMINDER"

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Check work area for tools and parts after completion of maintenance and inspection.

Seq. No.	Item and Procedure
	Gunner and Pilot Area
3.1	All windows for damage and cleanliness.
3.2	Deleted.
3.3	Gunner door for positive latching, struts for operation and security, linear explosive for breaks; activation handle for installed safety pin.
3.4	Cabin interior gunner area clean and clear of loose objects.
3.5	Fire extinguisher for broken or missing seal, safety pin installed, bracket for serviceability, inspection tag for date.
3.6	Magnetic compass for security of mounting, broken glass, fluid for proper level, discoloration, and current correction card.
3.7	Gunner safety belt and shoulder harness for damage and security. Inertia reel for positive lock and unlock.

C3

Seq. No.	Item and Procedure
3.8	Gunner seat for damage and security.
3.9	Armor panels for security of attachment and damage.
3.10	Check Gunner Helmet Sight rails for security and cleanliness (TM 9-1270-212-14).
3.11	Check Gunner Turret Sight for security, cleanliness, and moisture (TM 9-1090-203-12).
3.12	All instruments on gunners panel for cleanliness and visible damage. Instrument range markings for accuracy and legibility. All gage lenses for looseness, cracks. Check slippage marks, if applicable.
3.13	Pilots armor panels for security of attachment and damage.
3.14	Pilot door for positive latching. Struts for operation and security. Linear explosive for breaks; activation handle for installed safety pin.

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"FOD REMINDER"

Check work area for tools and parts after completion of maintenance and inspection.

Seq. No.	Item and Procedure
3.15	Cabin interior pilot area clean and clear of loose object tools.
3.16	First aid kit, presence of inspection date tags, broken or missing seal, and security.
3.17	Storage compartment above and aft of pilot for secure stowage of required items.
3.18	Check Pilot Helmet Sight Rails for security and cleanliness (TM 9-1270-212-14).
3.19	All instruments on pilots panel for cleanliness and visible damage. Instrument range markings for accuracy and legibility. All gage lenses for looseness, cracks, and slippage marks.
3.20	Pilot safety belt and shoulder harness for damage and security. Inertia reel for positive lock and unlock.
3.21	Pilot seat for damage and security; positive movement and locking in all positions.
3.22	Pilots gunsight for security, interior of body and lens for moisture and fogging.

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"FOD REMINDER"

Check work area for tools and parts after completion of maintenance and inspection.

Seq. No.	Item and Procedure
3.23	Check air data system pitot tube for proper movement and unobstructed.
	Lower Forward Fuselage Area
4.1	Exterior surfaces for visible damage, loose or missing access plates, chipping or peeling paint, and legibility of decals. Steps for condition.
4.2	Drains for cleanliness and obstructions.
4.3	Static port for cleanliness and obstructions.

C 8

Seq. No.	Item and Procedure
	Landing Gear Area
5.1	Landing gear and cross tube fairings for damage and security.
5.2	Cross tubes for visible indications of excessive spread.
5.3	Skid shoes for condition and security.
	Main Rotor Area
	NOTE
	<i>Aircraft operating in areas of salt laden air and high humidity will be washed daily with fresh water to prevent corrosion.</i>
	MANDATORY SAFETY OF FLIGHT INSPECTION ITEM
6.1	Wipe blades upper and lower surfaces with a clean soft cloth and inspect both surfaces

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Seq. No.	Item and Procedure
	and blade tip for damage, cracks and visible indications of voids and bond separation. Inspect for nicks and dents in trailing edge. On other than K747 blades, inspect scarf joints for erosion and corrosion. On K747 blades, inspect leading edge erosion guard for delaminations, cuts and tears, and excessive erosion. Pay particular attention to any separations or delaminations of the erosion guard's spanwise seam between blade stations 75 and 260 and the chordwise seam at station 75 (and at approximately 213 to 215 if appropriate) on both top and bottom surfaces of blade. Inspect leading edge erosion guard for circular delaminations or raised areas in the blade weight retention area (Station 224.4 to Station 238.0).
6.2	a. Inspect hub, blade grips, pitch horns, bolts, nuts, dust shields, yoke, and drag braces for visible damage and security. Pitch change tube bearings for axial looseness. b. Inspect trunnion housings (P/N 540-011-101-5/9 hubs only) and inboard feathering bearing housings for protruding teflon, teflon residue, evidence of overheating and security of extension sleeve.

"FOD REMINDER"

Check work area for tools and parts after completion of maintenance and inspection.

Seq. No.	Item and Procedure
	c. Inspect outboard feathering bearings for evidence of overheating and teflon residue. d. Inspect elastomeric trunnion bearings for damage and security. e. Inspect pitch change tubes, bearings, nuts, bolts, and trunnion housing for excessive radial and axial play and any other damage. f. Visually inspect tube for straightness. If tube appears to be bent, have TIR check accomplished. g. Inspect upper bearing housing and bearing outer race for marks (located in approximately 12 and 6 o'clock position on race) caused by contact of pitch horn. If such new marks are observed, perform a TIR check of the pitch change tube.
6.3	Sand deflectors for cracks and damage, if installed.

C7

Seq. No.	Item and Procedure
	Pylon Area 7.1 All cowling, access doors, and inspection plates for damage, security, and loose or faulty latches. Anticollision light for visible damage. 7.2 Exposed part of mast for visible damage and cleanliness. 7.3 Scissors and sleeve for visible damage and security. Scissors drive link bearings for looseness or excessive play. Swashplate for visible damage, security and for evidence of contact between outer ring or drive link and stationary swashplate. Minimum vertical clearance between drive links and all three horns must not be less than 0.035. 7.4 Check control linkage for bolt wear and elongation of bolt holes. Check for excessive play in bearings and bushings. Check for cracked washers.

"FOO REMINDER"

Seq. No.	Item and Procedure
7.5	Pitot tube for damage, cleanliness, obstructions and security.
7.6	Transmission external oil filter bypass indicator for condition of filter element.
7.7	Transmission and connections for damage and oil leakage. Sight gage for cracks, security and stains that might give a false indication of the oil level. Transmission sump for water contamination and correct oil level. Lift link for security. Lift link lugs for cracks with particular attention to right lift link lug in area of bushing.
7.8	Inspect cowl intake ramp for cleanliness, damage, obstructions, loose or missing fasteners.
7.9	Mast and boot for visible damage, corrosion and security.

C4

Seq. No.	Item and Procedure

"FOD REMINDER"

Seq. No.	Item and Procedure
7.9	Hydraulic reservoirs, modules, lines and hoses in hydraulic compartment for evidence of damage, security, leakage and chafing.
7.10	Hydraulic reservoirs for correct fluid level. Deplete collective accumulator prior to checking the #1 system. Check module filter for extended indication.
7.11	Hydraulic reservoirs for correct fluid level. Check module filter for extended indicator.
7.12	Environmental control system (ECS) for damage, security and evidence of leakage.
7.13	Main (input) drive shaft couplings for evidence of grease leakage. Clamps for damage and security.
7.14	Visually check FOD screen for security, FOD, grass, leaves or other debris.
7.15	Visually check 10KVA alternator for evidence of overheating, wiring for chafing, and loose or corroded connections, and security.

C7

Seq. No.	Item and Procedure
Wing Area	
8.1	Exterior surfaces of wings for damage, chipped or peeling paint, and legibility of decals. Condition of ejector rack fairing.
8.2	Access doors for damage and security.
8.3	Stores ejector racks for damage, security, corrosion and distortion of any parts.
	NOTE
	Wipe ejector racks with a cloth dampened with oil (C78) when inspecting. Clean ejector rack jettison mechanism daily when in use.
8.4	Stores ejector for adjustment and seating on external stores; safety pins installed.
8.5	External stores for looseness in stores rack.
8.6	Check wing area for evidence of hydraulic leaks.

"FOD REMINDER"

Seq. No.	Item and Procedure
	Center Fuselage Area
9.1	All exterior surfaces for damage, chipped or peeling paint and legibility of decals.
9.2	Access doors for damage, missing fasteners, positive latching and unlatching, condition of hinges.
9.3	External power receptacle and access door for security and condition.
9.4	External drains for damage, corrosion and obstructions.
9.5	Fuel tank sump drains for water or other contamination. (Use sample jar.) Fuel supply lines and fuel cell cavity drain for damage and evidence of leakage.
9.6	Oil cooler (and duct screen) for damage, obstructions, and security. Oil cooler blower for visible damage and evidence of grease leakage. Check turbine for rough or binding bearings by turning turbine by hand.

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Seq. No.	Item and Procedure
	MANDATORY SAFETY OF FLIGHT INSPECTION ITEM
9.7	Hydraulic cylinders and lines for damage, evidence of leakage and security. Reposition hoses, if necessary to prevent chafing.
	MANDATORY SAFETY OF FLIGHT INSPECTION ITEM
9.8	Check cylinder mount nuts (4) for condition and security. Retorque nuts and repaint slippage marks if necessary.
	MANDATORY SAFETY OF FLIGHT INSPECTION ITEM
9.9	Emergency hydraulic pump motor package for damage, security and evidence of leaks. (AH-1S PROD) (ECAS, MC)

"FOD REMINDER"

Check work area for tools and parts after completion of maintenance and inspection.

Seq. No.	Item and Procedure
	MANDATORY SAFETY OF FLIGHT INSPECTION ITEM
9.10	Hydraulic accumulator for precharge. Discharge hydraulic pressure for check. (AH-1G/S MOD)
9.11	Electrical compartment for security of components and condition of wiring.
9.12	Tail rotor boost cylinder and hoses for evidence of damage, security, leakage and chafing.
9.13	Battery compartment interior for cleanliness and corrosion. Battery and connections for security, presence of safety wire cleanliness and corrosion. Battery vent for obstructions. Proper positioning.

C7

Seq. No.	Item and Procedure
	Engine Area
10.1	Oil tank, lines and hoses for evidence of damage, leakage and chafing.
10.2	Check oil tank for correct oil level.
10.3	Upper fairing for damage and security.
10.4	Cowling, latches, and fire detector elements for damage and security.
10.5	Tailpipe fairing/IR duct, countermeasure set cover and ejector for damage and security.
10.6	Engine accessories, connections, bipod and tripod mounts visually for damage, security and loose bolts.
10.7	Engine compressor housing visually for security, cracks, scratches, and corrosion.
10.8	Engine combustion chamber housing exhaust diffuser, support cone, fireshield, and tailpipe or exhaust duct for cracks, dents, and burned or buckled areas and missing blades.

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"FOD REMINDER"

Check work area for tools and parts after completion of maintenance and inspection.

Seq. No.	Item and Procedure
10.9	Engine mounts for security, cracks, and damage; both trunnions at mid-points or underside for cracks.
10.10	Engine control linkages, actuator, and cam-box for condition and security.
Tailboom Area	
11.1	Tailboom exterior for evidence of damage; elevators and tail skid for damage and security.
11.2	Tailboom attaching fittings for security and cracks.
11.3	Tailboom attaching bolts for proper torque by checking slippage marks.

Seq. No.	Item and Procedure
11.4	Tail rotor drive shaft installation for damage and security of shafts, hangers, couplings, and clamps. Visually inspect clamps for cracks. Visually examine hanger bearings and couplings for evidence of overheating. Inspect tail rotor drive shaft couplings for grease leakage and protruding seals.
11.5	Deleted.
11.6	Intermediate (42°) gearbox for security, correct oil level, and leakage. Inspect gear teeth through filler cap opening for scoring. Sight gage for cracks, security and stains that might give a false indication of the oil level.
11.7	Tail rotor (90°) gearbox for security, correct oil level, and leakage. Sight gage for cracks, security and stains that might give a false indication of the oil level.
11.8	Remove chain guard (P/N 209-001-773-1) and inspect chain for wear and/or broken links. Check sprocket teeth for wear. Check play in pitch link rod ends and control crosshead.

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"FOC REMINDER" (AH-1G AIRCRAFT ONLY)

Check work area for tools and parts after completion of maintenance and inspection.

Seq. No.	Item and Procedure
	NOTE
	Position tail rotor blades at the 6 and 12 o'clock positions.
11.9	Tail rotor hub and blade assembly for security and visible damage. Check bearings for deterioration, damage, or excessive play.
11.10	Tail rotor control installation for security, cleanliness of sprocket and chain condition and tension of cables.
11.11	Visually inspect tail rotor crosshead retaining nuts and bolts to ensure cotter pins are installed and are safetying nuts to bolts.
11.12	90° gearbox support fitting (casting) for evidence of chafing by vertical fin door.
11.13	Deleted.

C7

Seq. No.	Item and Procedure
	Lubrication
All Areas	Lubricate in accordance with lubrication chart contained in applicable maintenance manual.
	Power On
1.9	Pitot heater for operation.
3.24	Caution panel lights for illumination.
3.25	Interior lights (cockpit, instrument, console, and panel lights) for proper operation.
3.26	Exterior lights (navigation, anticollision, and search lights) for proper operation.

"FOD REMINDER"

Seq. No.	Item and Procedure
3.27	Fuel quantity indicator checked with test switch.
10.11	Engine controls for free action through full range, idle stop release and governor rpm actuator functionally check.
10.12	Main fuel filter for caution panel indication of clogged element condition, evidence of water in filter drain sample, leakage from lines. (Fuel boost pumps on.)
10.13	Check separator overboard vent during engine operation, or prior to engine shutdown for air stream flow. Smooth flow indicates sand ejector operating satisfactorily.

Seq. No.	Item and Procedure
	Avionics Perform avionics inspection, check and test electrical equipment as required in applicable avionics publication. DA Form 2404 shall also be used to record results of inspections by avionics personnel. Armament Perform armament system inspections, checks, and tests as required in applicable armament publications.

"FOD REMINDER"

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Check work area for tools and parts after completion of maintenance and inspection.

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Seq. No.	Item and Procedure
	Forms and Records Completion Ensure that all entries on forms, records, and work sheets have been completed or updated and new forms initiated as required (TM 38-750).

Seq. No.	Item and Procedure

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"FOD REMINDER"

Check work area for tools and parts after completion of maintenance and inspection.

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

J. C. PENNINGTON
Major General, United States Army
The Adjutant General

DISTRIBUTION:

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